Abstract

Charles University in Prague
Faculty of Pharmacy in Hradec Králové
Department of Biological and Medical Sciences

Candidate: Monika Tichá
Supervisor: Mgr. Marcela Vejsová, PhD.
Title of diploma thesis: Evaluation of activity of potentional antifungal substances through the use of microdilution broth method

Background: The aim of this thesis was evaluation of activity of potentional antifungal substances through the use of microdilution broth method. Total of 52 substances were tested. Substances were synthetisized at Department of Pharmaceutical Chemistry and Drug Control (Mgr. Jandourek, Mgr. Semelkova). All substances were pyrazine derivates, the substances were divided into six group. Sensitivity of the 8 strains was tested - *Candida albicans*, *Candida tropicalis*, *Candida krusei*, *Candida glabrata*, *Trichosporon asahii*, *Aspergillus fumigatus*, *Absidia corymbifera*, *Trichophyton mentagrophytes*.

Methods: Microdilution broth method was used.

Results: Total of 24 substances displayed antifungal effect, the lowest MIC was 62,5 $\mu mol.l^{-1}$. The most sensitive strain was *Trichophyton mentagrophytes*, the least sensitive was *Candida albicans*. Derivates of *N*-benzylpyrazine-2-amine were the most active group of the substances.

Conclusion: Alkyls with long hydrocarbon chain appeared to be profitable substituents for the antifungal activity. Chlorine, fluorine and trifluoromethyl benzene atoms had also shown positive influence. Binding 2 atoms of chlorine in position 3,4 was evaluated as the most advantageous.